

New England Biolabs Technical Literature - Updated 12/31/1969



The Genetic Code

| | | | | | | | | | | | | | | | | | | | |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| A | R | N | D | C | Q | E | G | H | I | L | K | M | F | P | S | T | W | Y | V |
| Ala | Arg | Asn | Asp | Cys | Gln | Glu | Gly | Hs | Ile | Leu | Lys | Met | Phe | Pro | Ser | Thr | Trp | Tyr | Val |
| 5' GCA | CGA | AAC | GAC | UGC | CAA | GAA | GGA | CAC | AUA | CUA | AAA | AUG | UUC | CCA | UCA | ACA | UGG | UAC | GUA 3' |
| C | C | U | U | U | G | G | C | U | C | C | G | G | U | C | C | C | U | U | C |
| G | G | | | | | | G | | U | G | U | | | G | G | G | | | G |
| U | U | | | | | | U | | | U | U | | | U | U | U | | | U |
| | or | | | | | | | | | or | | | | | or | | | | |
| | AGA | | | | | | | | | UUA | | | | | AGC | | | | |
| | G | | | | | | | | | G | | | | | U | | | | |

| Second Position | | | | | | | Third Position (3' end) |
|----------------------------|---|----------------------------------|------------------------------|---|---------------------------------------|------------------|----------------------------|
| First Position (5' end) | | U | C | A | G | | |
| | U | UUU Phe UUC UUA Leu UUG | UCU UCC Ser UCA UCG | UAU Tyr UAC Stop UAA Stop UAG Stop | UGU Cys UGC UGA Stop UGG Trp | U C A G | |
| | C | CUU CUC Leu CUA CUG | CCU CCC Pro CCA CCG | CAU His CAC CAA Gln CAG | CGU CGC Arg CGA CGG | U C A G | |
| | A | AUU AUC Ile AUA AUG Met | ACU ACC Thr ACA ACG | AAU Asn AAC AAA Lys AAG | AGU Ser AGC AGA Arg AGG | U C A G | |
| | G | GUU GUC Val GUA GUG | GCU GCC Ala GCA GCG | GAU Asp GAC GAA Glu GAG | GGU GGC Gly GGA GGG | U C A G | |

Termination Signals

UAA (Ochre)

UAG (Amber)

UGA (Opal)

Single Letter Code

A = adenosine

C = cytidine

G = guanosine

T = thymidine

B = C or G or T

D = A or G or T

H = A or C or T

K = G or T

M = A or C

N = A or C or G or T

R = A or G

S = C or G

V = A or C or G

W = A or T

Y = C or T

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